Cleanup's another step closer to completion

One-of-a-kind shipping casks, railcars ready

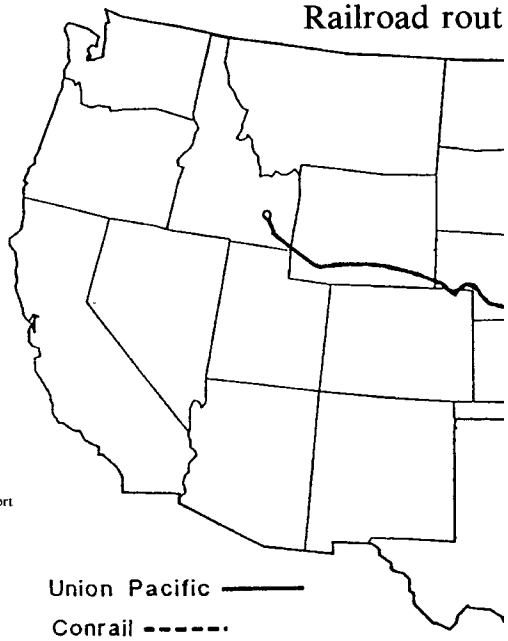
Two new design rail shipping casks will soon be moving the TMI-2 cleanup project another step closer to completion. DOE-ID and EG&G Idaho representatives accepted the first of the new casks in Seattle, Wash., Dec. 15, 1985, marking the achievement of a key DOE milestone in the life of the project.

The casks, designed and fabricated by Nuclear Packaging, Inc., a subsidiary of Pacific Nuclear Systems, are the only double containment spent fuel shipping casks in the industry. They were specifically designed to transport the rubbilized TMI-2 core, contained in fuel canisters, from TMI to the INEL. The casks can hold seven canisters each and will be delivered on special, heavy-duty railcars. Between 34 and 40 cask shipments are expected to be required.

From design to completion, the cask project took 18 months, an unusual achievement in itself, states Dick Schmitt, manager of EG&G Idaho's TMI Fuel and Waste Handling Program. The cask procurement was conducted through that Program.

"Historically, to build and license a cask takes several years," says Schmitt. "Both casks, and the specially designed railcars, were completed in 18 months at a cost of approximately $1.5 million per unit. The actual fabrication activities took about nine months."

The casks are licensed by the NRC, and the licensing effort was one of the major activities of the overall project. Schmitt says the Safety Analysis Report submitted to the NRC in support of the Certificate of Compliance (COC) for this cask is probably the most extensive in the history of the industry. "Several actions were taken early in the cask program to avoid lengthy licensing review cycles," says Schmitt. Early reviews with the NRC led to entering into extensive test programs to qualify design features of the cask and TMI-2 defueling canisters (the cask and canisters are being licensed together as a transport package.)



THE NEW DESIGN CASK is a vessel within a vessel. Made of stainless steel, the cask (including overpacks) is about 24' long x 12' in diameter and weighs approximately 100 tons. Representatives from DOE-ID and EG&G Idaho accepted the cask from Nuclear Packaging, Inc., in Seattle in December. From left to right are, Dick Schmitt, EG&G Idaho; Willis Bixby, DOE-ID; Geoff Quinn, EG&G Idaho; Dick Haelsig, Nuclear Packaging; Dave McGoff, DOE-HQ; Dale Uhl, EG&G Idaho; and Bill Crownover, EG&G Idaho.

A program of 1/4 scale cask drop tests was performed at the Transportation Technology Center at Sandia; drop tests on canisters were performed at Babcock and Wilcox and at Oak Ridge National Laboratory, with canister component testing conducted at Rockwell, Hanford, INEL and other labs. "All of this test data and analytical analyses were combined into the SAR submitted to the NRC in support of licensing," says Schmitt.

The first cask arrived at INEL in January and a dry run of cask handling operations at CFA and TAN was completed. The second cask is at HEDL where an integrated test is essentially complete. The integrated test consists of mating the cask with all equipment needed to interface with the TMI facility, including equipment under procurement by Bechtel for GPU Nuclear, and equipment other than the cask, skid and railcar, under procurement by EG&G for GPU Nuclear. The integrated test at the HEDL Maintenance and Service Facility (near the Fast Flux Test Facility) has checked out all operational procedures required to install and operate the equipment at TMI prior to its arrival on the island.

Fuel shipments from TMI are scheduled to begin arriving at the INEL in June and will continue for about two years.

Other parts of the TMI Fuel and Waste Handling Program include: acceptance of the fuel debris canisters at TMI, shipping the loaded casks across country (DOE will be the shipper of